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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/583,096	05/18/2007	Sergej Lopatin	LOPA3009/EJD	1266
23364 7590 02/23/2010 BACON & THOMAS, PLLC 625 SLATERS LANE FOURTH FLOOR ALEXANDRIA, VA 22314-1176				
EXAMINER ROGERS, DAVID A				
ART UNIT 2856		PAPER NUMBER		
MAIL DATE 02/23/2010		DELIVERY MODE PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/583,096

**Applicant(s)**

LOPATIN ET AL.

**Examiner**

DAVID A. ROGERS

**Art Unit**

2856

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 December 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 11-19 and 21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 21 is/are allowed.
- 6) ☒ Claim(s) 11-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 October 2008 and 11 May 2009 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### ***Claim Rejections - 35 U.S.C. § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

2. Claims 12, 13-16, 16, and 18 are rejected under 35 U.S.C. 102(a) as being anticipated by United States Patent 6,647,786 to Ohta *et al.*

Ohta *et al.* describes a known mechanical oscillator (reference item 51) having oscillating arms (reference items 52 and 53). The oscillator is mounted to a “stem” (reference item 55) via a support arm (considered to be a “flange”) (reference item 57) and substrate member (reference item 56). The support arm and substrate member constitute a securing member for the oscillator. On the “stem” is a circuit (reference item 60) for driving the oscillator and for detecting a signal from the oscillator. The above arrangement is a “securement” for the oscillator and a “force detection unit” that is coupled to the “securement” and for detecting the reaction forces; e.g. transmitted vibrations, from the oscillating unit.

### ***Claim Rejections - 35 U.S.C. § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ohta *et al.* in view of United States Patent 6,698,287 to Kubena *et al.*

Ohta *et al.* describes a known mechanical oscillator (reference item 51) having oscillating arms (reference items 52 and 53). The oscillator is mounted to a "stem" (reference item 55) via a support arm (reference item 57) and substrate member (reference item 56). The support arm and substrate member constitute a securing member for the oscillator. On the "stem" is a circuit (reference item 60) for driving the oscillator and for detecting a signal from the oscillator. The above arrangement is a "securement" for the oscillator and a "force detection unit" that is coupled to the "securement" and for detecting the reaction forces; e.g. transmitted vibrations, from the oscillating unit. Ohta *et al.* does not teach adjusting the oscillating unit with regard to the oscillating properties.

Kubena *et al.* teaches that it is known in the art to adjust a mechanical oscillator's properties. See column 1 (lines 65-67) through column 2 (lines 1-8) along with column 3 (lines 60-67) through column 4 (lines 1-15).

While Kubena *et al.* does not expressly teach "issuing a report", one of ordinary skill in the art would know to monitor the oscillating properties of the oscillating member in order to determine the amount of tuning needed.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Ohta *et al.* with the teachings of Kubena *et al.* in order to monitor the oscillating properties of the mechanical oscillator in order to determine the amount of tuning needed.

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5. Claims 17 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohta *et al.* and Kubena *et al.* as applied to claim 15 above, and further in view of United States Patent 4,920,787 to Dual *et al.*

Ohta *et al.* and Kubena *et al.* teach the testing and tuning of an oscillating member. Ohta *et al.* and Kubena *et al.* do not teach an oscillating member having a single rod and detection using an accelerometer.

Dual *et al.* teaches that oscillating members can comprises a single rod. Furthermore, Dual *et al.* teaches that piezoelectric sensors can be used to detect the reactions of the single rod. Official notice is hereby taken that piezoelectric sensors would function as accelerometers and the movement of the piezoelectric sensor would be caused by the movement of the rod - which must accelerate the sensor in order to create the signal response.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Ohta *et al.* and Kubena *et al.* with the teachings of Dual *et al.* in order to use a single rod oscillator so that the proper oscillating properties can be determined and the device tuned for its preferred operation.

***Allowable Subject Matter***

6. Claim 21 is allowed.

***Response to Arguments***

7. Applicant's arguments filed 23 December 2009 have been fully considered but they are not persuasive.

The applicant argues that they do not agree that Ohta *et al.* teaches a "force detection unit" or "using a force detection unit mechanically coupled to the securement".

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As explained above Ohta *et al.* teaches a driving/detection circuit (reference item 60). The detection portion of this circuit will react to the forces from the oscillating arms (reference items 52 and 53). This circuit is mechanically coupled to the securement (reference item 55), which is, in turn, mechanically coupled to the measuring device (the oscillating arms) using "means for securing".

### ***Conclusion***

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 C.F.R. 1.136(a). A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 C.F.R. 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **DAVID A. ROGERS** whose telephone number is (571)272-2205. The examiner can normally be reached on Monday - Friday (0730 - 1600). If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron E. Williams can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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10. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David A. Rogers/  
Primary Examiner, Art Unit 2856

# Search Notes



Application/Control No.

10/583,096

Examiner

DAVID A. ROGERS

Applicant(s)/Patent under  
Reexamination

LOPATIN ET AL.

Art Unit

2856

## SEARCHED

## SEARCH NOTES (INCLUDING SEARCH STRATEGY)

CLASS

SUBCLASS

DATE

EXAMINER

DATE

EXAMINER

073

1.01,1.02,1.73,1.82,1.83

2/18/10

/DaR/

EAST Search Notes Attached.

2/18/10

/DaR/

## INTERFERENCE SEARCHED

CLASS

SUBCLASS

DATE

EXAMINER